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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/729,057

12/05/2003

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JP920020197US1

9206

48233 7590 03/27/2008
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EXAMINER

FRINK, JOHN MOORE

ART UNIT

PAPER NUMBER

2142

MAIL DATE

DELIVERY MODE

03/27/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/729,057	Applicant(s) AOKI ET AL.	
	Examiner JOHN M. FRINK	Art Unit 2142	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30,34,42,44 and 45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30,34,42,44 and 45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 12/27/2007 have been fully considered but they are not persuasive.
2. Regarding the rejections made under 35 USC 103, Applicant begins by specifically arguing the rejections made to claims 6 and 21. Applicant states that Hiltgen does not teach a "process requestor means/step for determining the process requestor to which the message generated due to said agent start cause event is applied". Applicant states that paragraph [83] of the specification supports said 'process requestor' as referring to "entities such as organizations or individuals such as companies and process commissioners". However, [83] merely lists "subordinate concepts" of process requestors. Those these "subordinate concepts" include "members" and "organizations"; however, they also include "process clients, application process requestors" and "server process requestors". Additionally, [83] describes process requestors to include "a work flow processing portion". Thus, the specification does support limiting the means to only include entities such as organizations or individuals as Applicant is arguing.
3. Applicant next argues that "Hiltgen does not teach or suggest 'agent activating event'". However, Hiltgen was not cited to teach 'agent activating event'; thus Applicant's argument is not persuasive.
4. Applicant continues by arguing that Ransom does not teach "total load summation of priorities per each process". However, "total load summation of priorities

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per each process" does not correspond to the claim language. The claim language claims "compound process priority about each message based on the sub-process priority". In Ransom, the "aggregated load", which Applicant states does not calculate compound priority, is actually calculated using the subprocess priority (or "j" in the cited Figures) and thus is "based on" the subprocess priority, thus meeting the claim language. Furthermore, Ransom in col. 2 lines 39 - 51 clearly shows utilizing compound priority. Thus Applicant's arguments are not persuasive.

5. Applicant continues by arguing that claims 1, 2, 16, 17, 32, 40, 3, 17, 33, 37, 41, 4, 19, 5, 20, 7 – 9 and 22 - 24 should be allowable based on the arguments already addressed. This argument is not persuasive for the reasons given above.

6. Applicant next argues, regarding claims 7 and 22, that "Gay does not disclose a standard of value that is related to content of message or to process requestor".

However, Gay in [13, 16-17, 30-34] discloses applying a high priority to messages in a high priority queue/process requestor. Furthermore, in [6] Gay discloses that a messages that "contains VoIP data" is given a high priority, thus disclosing a high priority standard of value to messages with VoIP contents. Applicant's arguments thus are not persuasive.

7. Applicant continues arguing the application of Gay to claims 8 and 23. Applicant argues that Gay does not "teach or suggest predetermined standard of value related to the contents of the message". However, Gay indeed does meet this limitation through discussing applying a predetermined high standard of value messages with containing VoIP data in [6], as discussed above. Applicant's arguments thus are not persuasive.

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Applicant next argues that claims 10 and 25 are allowable Applicant believes the Butterworth reference is not prior art. Applicant states that

"Butterworth and this application **are assigned** to the same corporation (emphasis added)".

However, MPEP 706.02, as further described below, require that

"that the application and the reference were owned by, or subject to an obligation of assignment to, the same person **at the time the invention** (emphasis added)".

Furthermore, this declaration, provided by Applicant, must be made in a "conspicuous" manner; Applicant's declaration, appears on page 53 of Applicant's arguments, and thus is not made in a "conspicuous" manner. Thus there are issues with both the language and form of Applicant's declaration. In summary:

Applicant has attempted to disqualify reference Butterfield under 35 U.S.C.103(c) by showing that the invention was owned by, or subject to an obligation of assignment to, the same entity as the pending application at the time this invention was made. However, applicant has failed to provide a statement that the application and the reference were owned by, or subject to an obligation of assignment to, the same person at the time the invention was made in a conspicuous manner, and therefore, is not disqualified as prior art under 35 U.S.C. 103(a). Applicant must file the required evidence in order to properly disqualify the reference under 35 U.S.C. 103(c). See MPEP § 706.02(I).

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8. Applicant next argues that claims 11 and 26 should be allowable, arguing that “Don does not disclose the agent management means including the compound process priority determination means.” Claim 11 and 26 were rejected under 35 USC 103, Saran in view of Yamamoto, Hyde, Hiltgen, Ransom, Cochcroft and Don. Ransom, as was discussed above and discussed in the pending and previous rejections of claims 6 and 21, upon which claims 11 and 26 depend, teaches “compound process priority determination means”. In brief, Don teaches grouping/updated grouping based on priority. Additionally, new grounds of rejection have been made as necessitated by the amendments made to the independent claims.

9. Applicant concludes by arguing that claims 12 – 15, 27 - 30, 35, 38 and 43 should be allowable for the reasons addressed above. This argument is not persuasive for the reasons given above.

Specification

10. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter for the reasons given below in the 35 USC 112 written description rejection. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).

Claim Rejections - 35 USC § 112

11. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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13. Claim 45 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, claim 45 claims an “agent server step”. Support for said “agent server step” has not been provided in the specification.

14. Claims 1, 3, 5, 6, 8, 9, 12 – 15, 16, 18, 20, 21, 23, 24 and 27 - 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

In order to perform a complete examination, the Examiner has endeavored to interpret the claims as they would be seen by one of ordinary skill in the art.

15. Regarding claims 1 and 16:

“creating list information on process requestor to which a message generated due to said agent activating event;”

16. Regarding claims 3 and 18:

“creating list information on process requestor to which a message generated due to said agent activating event;”

17. Regarding claims 5 and 20:

“means is based on estimated number of”

“to which the message generated upon the agent activating event, estimated hit rate”

“to which the message generated upon the agent activating event, estimated work time”

“determining of the cache memory associated”

“from determining use of outside the cache memory”

“until the completing the process”

18. Regarding claims 6 and 21:

“process requestor associated with agent activating event”

“to which a message generated upon said agent activating event based on said process requestor information”

“determination means as to each message”

19. Regarding claims 8 and 23:

“related to emergency of the message”

20. Regarding claims 9 and 24:

“related to rating of the process requestors”

21. Regarding claims 12 and 27:

“determined as that there is an agent activating event”

22. Regarding claims 13 and 28:

“determined as that there is no agent activating event”

23. Regarding claims 14 and 29:

“determined as that there is no agent activating event”

“in acceptance order is already determined as that there is an agent activating event”

24. Regarding claims 15 and 30:

“events of which determination result”

Claim Rejections - 35 USC § 103

25. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

26. Claims 1, 2, 6, 16, 17, 21, 34, 42, 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saran (US 2003/0055668 A1) in view of Hiltgen (US 2004/0216126 A1), Hyde (Memory Architecture), Ransom (6,148,324) and Cochcroft (5,317,738).

27. Regarding claims 6, 21, 34 and 42, Saran shows a message processing method and a process requester search information management means for managing process requestor search information for searching for an applicable process requester associated with agent activating event;

acceptance means for accepting the agent activating event (Figs. 13 and 14 and [9-10]);

and a plurality of agents associated with the process requesters, stored in a persistent storage ([70]).

Saran does not show process requestor determination means for determining a process requestor to which a message generated upon said agent activating event based on said process requestor search information.

Hiltgen shows process requestor determination means for determining a process requestor to which a message generated upon said agent activating event based on said process requestor search information ([6, 11 - 12, 40 - 47]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Saran with that of Hiltgen in order to improve agent execution (Hiltgen, [0010]).

Saran in view of Hiltgen do not show where the plurality of agents are readable from the persistent storage to a cache memory and abandonable from the cache memory, each agent becoming operable when existing in the cache memory.

Hyde shows where data is readable from the persistent storage to a cache memory and abandonable from the cache memory, each agent becoming operable when existing in the cache memory (6.3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Saran in view of Hiltgen with that of Hyde in order to utilize the speed advantages of cache memory compared to slower storage methods (Hyde, 6.3 and 6.4).

Saran in view of Hiltgen and Hyde do not show at least one sub-process priority

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determination means for determining process priority about each message as Sub-process priority based on a single standard of value;

compound process priority determination means for, when the total number of said sub-process priority determination means is two or more, determining compound process priority about each message based on the sub-process priority individually determined as to each message by each sub-process priority determination means, and when the total number of said sub-process priority determination means is one, determining as the compound process priority the sub-process priority determined by said one sub-process priority determination means as to each message; and

agent instruction means for rendering the message of the highest compound process priority among the messages held by each message queue as the message of the highest priority.

Ransom shows at least one sub-process priority determination means for determining process priority about each message as Sub-process priority based on a single standard of value;

compound process priority determination means for, when the total number of said sub-process priority determination means is two or more, determining compound process priority about each message based on the sub-process priority individually determined as to each message by each sub-process priority determination means, and when the total number of said sub-process priority determination means is one, determining as the compound process priority the sub-process priority determined by said one sub-process priority determination means as to each message; and

agent instruction means for rendering the message of the highest compound process priority among the messages held by each message queue as the message of the highest priority (Abstract, Figs. 1 and 2, and col. 1 line 35 - col. 2 line 50).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Saran in view of Hiltgen and Hyde with that of Ransom better manage CPU usage and task prioritization (Ransom, Abstract).

Saran in view of Hiltgen and Hyde and Ransom do not show between the agents related to the message queues of which compound process priority of the message of the highest priority is the same, instructing the agent existing in the cache memory to operate in preference to the agent not existing therein.

Cochcroft shows between the agents related to the message queues of which compound process priority of the message of the highest priority is the same, instructing the agent existing in the cache memory to operate in preference to the agent not existing therein (Abstract, col. 1 line 6 – col. 2 line 53).

Cochcroft shows prioritizing processes which are already contained, at least in part, in cache over processes that are not contained in cache at all (Abstract, col. 1 line 6 – col. 2 line 53).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Saran in view of Hiltgen, Hyde, Ransom with that of Cochcroft in order to optimize system performance through the more intelligent use of cache.

Saran in view of Hiltgen, Hyde, Ransom and Cochcroft claims 6, 21, 31 and 42,

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include showing between the agents related to the message queues of which compound process priority of the message of the highest priority is the same, instructing the agent existing in the cache memory to operate in preference to the agent not existing therein.

28. Regarding claims 1 and 16, Saran in view of Hiltgen, Hyde, Ransom and Cochcroft show the message processing apparatus ~~characterized by having~~ according to claim 6, further comprising: list information creation means for, based on said process requester search information, creating list information on process requesters to which a message generated due to said agent activating event (Saran [66-70]);

insertion and reading means for, of the process requesters included in said list information, selecting a plurality of unselected process requesters as the process requesters to be inserted and read, inserting said message into the message queues related to the process requesters to be inserted (Saran [99-109 and 116-117]) and read and reading the agents related to said process requesters from the persistent storage to the cache memory (Hyde, 6.3);

repetitive instruction means for, in the case where the unselected process requester remains in said list information, waiting for termination of all the agents in operation and instructing said insertion and reading means to repeat the process (Saran, [102-103] and Hiltgen Fig. 6 and [60]).

29. Regarding claims 2 and 17, Saran in view of Hiltgen, Hyde, Ransom and Cochcroft show wherein each agent sends a notice to the process requester associated

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with the agent as to the message in the message queue associated with the agent (Saran [91-93, 100-103, 137-142]).

30. Regarding claim 44, Saran in view of Hiltgen, Hyde, Ransom and Cochcroft show an agent server for processing said plurality of agents asynchronously (Saran [107,111,116]), having said message queue of said each agent, managing said cache memory (Hyde 6.3), and allocating threads to said agents on said cache memory (Hiltgen [6, 11-12, 40-47]).

31. Regarding claim 45, Saran in view of Hiltgen, Hyde, Ransom and Cochcroft show an agent server step of providing an agent server to process said plurality of agents asynchronously (Saran [107,111,116]), to have said message queue of said each agent, to manage said cache memory (Hyde 6.3), and to allocate threads to said agents on said cache memory (Hiltgen [6, 11-12, 40-47]).

32. Claims 7, 8, 9, 22, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saran in view of Hiltgen, Hyde, Ransom and Cochcroft as applied to claims 6 and 21 above, and further in view of Gay (US 2004/0100906 A1).

33. Regarding claims 7 and 22, Saran in view of Hiltgen, Hyde, Ransom and Cochcroft show claims 6 and 21.

Saran in view of Hiltgen, Hyde, Ransom and Cochcroft do not show wherein said standard of value may be related to the contents of the message or to the process requesters to which the message is applied.

Gay shows wherein said standard of value may be related to the contents of the message or to the process requesters to which the message is applied (Abstract, [16-

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22])).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Saran in view of Hiltgen, Hyde, Ransom and Cochcroft with that of Gay in order to in order to better handle time sensitive data and other prioritized messages.

34. Regarding claims 8 and 23, Saran in view of Hiltgen, Hyde, Ransom, Cochcroft and Gay further show wherein the predetermined standard of value related to the contents of the message includes the standard value related to emergency of the message (Gay, Abstract, [16-22]).

35. Regarding claims 9 and 24, Saran in view of Hiltgen, Hyde, Ransom, Cochcroft and Gay further show wherein the standard of value related to the process requestors to which the message is applied includes the standard of value related to rating of the process requestors (Gay, [16-22] and Saran, Abstract).

36. Claims 3 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saran in view of Hiltgen, Hyde, Ransom and Cochcroft as applied to claims 6 and 21 above, and further in view of Hunter (US 6,665,699 B1).

Saran in view of Hiltgen, Hyde, Ransom and Cochcroft show claims 6 and 21, including list information creation means for, based on said process requester search information, creating list information on process requesters to which a message generated due to said agent activating event (Saran [99-109, 116-117]); and

insertion means for inserting said message into the message queues related to all the process requesters included in said list information (Saran [99-109, 116-117]);

and

insertion and reading means for, of the process requesters included in said list information, selecting a plurality of unselected process requester as the process requesters to be inserted and read, inserting said message into the message queues related to the process requesters to be inserted (Saran, [99-109, 116-117]) and read and reading the agents related to said process requesters from the persistent storage to the cache memory (Hyde, 6.3); and

repetitive instruction means for, in the case where the unselected process requester remains in said list information, waiting for termination of all the agents in operation and instructing said insertion and reading means to repeat the process (Saran [102-103] and Hiltgen Fig.6 and [60]).

Saran in view of Hiltgen, Hyde, Ransom and Cochcroft do not show a first message queue processing mechanism; a second message queue processing mechanism; selection means for selecting either one of the first and second message queue processing mechanisms.

Hunter shows a first message queue processing mechanism; a second message queue processing mechanism; selection means for selecting either one of the first and second message queue processing mechanisms (col. 4 lines 26 – col. 5 lines 65).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Saran in view of Hiltgen, Hyde, Ransom and Cochcroft with that of Hunter in order to allow for increased ability in dealing with a large

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number of jobs and handling/prioritizing said jobs differently based on the needs of the system and individual jobs (Hunter, Abstract).

37. Claims 4, 5, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saran in view of Hiltgen, Hyde, Ransom, Cochcroft and Hunter as applied to claims 3 and 18 above, and further in view of Deosaran (US 2002/0135611 A1).

38. Regarding claims 4 and 19, Saran in view of Hiltgen, Hyde, Ransom, Cochcroft and Hunter show claims 3 and 18.

Saran in view of Hiltgen, Hyde, Ransom, Cochcroft and Hunter do not show wherein selection of said selection means is based on an instruction of an operator.

Deosaran shows wherein selection of said selection means is based on an instruction of an operator ([7, 10, 66, 93 and 99]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Saran in view of Hiltgen, Hyde, Ransom, Cochcroft and Hunter with that of Deosaran in order to allow increased flexibility and responsiveness in message handling.

39. Regarding claims 5 and 20, Saran in view of Hiltgen, Hyde, Ransom, Cochcroft, Hunter and Deosaran show the message processing apparatus according to claim 3, wherein selection of said selection means is based on estimated number of the process requesters to which the message generated upon the agent activating event (Deosaran, Table 5 and [116-117] and Saran [9-13, 52, 67, 91-93]), estimated hit rate in the cache memory where the agents resides, said agents associated with the process requesters

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to which the message generated upon the agent activating event, estimated work time, in the case where said selection means selects the first message queue processing mechanism, from acceptance of the information by said acceptance means until obtaining the list information on the process requestors to which the message is applied and inserting the message into the message queues of all the agents, estimated work time, in the case where Said selection means selects the second message queue processing mechanism, from acceptance of the information by said acceptance means until Obtaining the list information on the process requestors to which the message is applied and inserting the message into the message queues of all the agent (Deosaran [7,10,66,93, 99] and Hunter col. 4 line 26 – col. 5 line 65).

Saran in view of Hiltgen, Hyde, Ransom, Cochcroft, Hunter and Deosaran also show that cache is faster than other types of storage, and its use thus leads to faster system performance (Hyde, 6.3).

Saran in view of Hiltgen, Hyde, Ransom, Cochcroft, Hunter and Deosaran do not show estimated time from determination of use as to the agent in the cache memory until completion of the process by the determined agent, and/or estimated time from determination of use as to the agent outside the cache memory until the completion of the process by the determined agent.

Cochcroft shows prioritizing processes which are already contained, at least in part, in cache over processes that are not contained in cache at all (Abstract, col. 1 line 6 – col. 2 line 53).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Saran in view of Yamamoto, Hyde, Hunter, and Deosaran with that of Cochcroft in order to optimize system performance through the more intelligent use of cache.

Saran in view of Hiltgen, Hyde, Ransom, Cochcroft, Hunter and Deosaran thus show estimated time from determination of use as to the agent in the cache memory until completion of the process by the determined agent, and/or estimated time from determination of use as to the agent outside the cache memory until the completion of the process by the determined agent (Hyde, 6.3; Cochcroft, col. 1 line 6 – col. 2 line 53).

40. Claims 10 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saran in view of Hiltgen, Hyde, Ransom and Cochcroft as applied to claims 6 and 21 above, and further in view of Butterworth (US 6,996,821 B1).

Regarding claims 10 and 25, Saran in view of Hiltgen, Hyde, Ransom and Cochcroft show claims 6 and 21.

Saran in view of Hiltgen, Hyde, Ransom and Cochcroft do not show wherein, when there are a plurality of messages held by the message queue associated with the agent initiated by said agent instruction means, the agent continuously processes all those messages or the messages of which compound process priority is within a predetermined value in descending rank.

Butterworth shows wherein, when there are a plurality of messages held by the message queue associated with the agent initiated by said agent instruction means, the agent continuously processes all those messages or the messages of which compound

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process priority is within a predetermined value in descending rank (col. 3 line 40 – col. 4 line 29).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Saran in view of Hiltgen, Hyde, Ransom and Cochcroft with that of Butterworth in order to improve process scheduling and execution (Butterworth, Abstract).

Claims 10 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saran in view of Hiltgen, Hyde, Ransom and Cochcroft as applied to claims 6 and 21 above, and further in view of Butterworth (GB 2 348 306 A), hereafter Butterworth GB.

Regarding claims 10 and 25, Saran in view of Hiltgen, Hyde, Ransom and Cochcroft show claims 6 and 21.

Saran in view of Hiltgen, Hyde, Ransom and Cochcroft do not show wherein, when there are a plurality of messages held by the message queue associated with the agent initiated by said agent instruction means, the agent continuously processes all those messages or the messages of which compound process priority is within a predetermined value in descending rank.

Butterworth GB shows wherein, when there are a plurality of messages held by the message queue associated with the agent initiated by said agent instruction means, the agent continuously processes all those messages or the messages of which compound process priority is within a predetermined value in descending rank (pgs. 4 and 5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Saran in view of Hiltgen, Hyde, Ransom and Cochcroft with that of Butterworth in order to improve process scheduling and execution.

41. Claims 11 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saran in view of Hiltgen, Hyde, Ransom and Cochcroft as applied to claims 6 and 21 above, and further in view of Don (US 6,633,954 B1).

42. Regarding claims 11 and 26, Saran in view of Hiltgen, Hyde, Ransom and Cochcroft show claims 6 and 21, including compound process priority of each agent and where there is agent management means including said sub-process priority determination means and said compound process priority determination means; (Ransom, Fig. 1 and 2, col. 1 line 35 - col. 2 line 50).

Saran in view of Hiltgen, Hyde, Ransom and Cochcroft do not show said agent management means has existence detection means for detecting whether or not each agent exists in the persistent storage, grouping information management means for grouping the agents and managing grouping information based on results of the existence detection means and the compound process priority of each agent, and update instruction means for instructing the grouping information management means to update the grouping information; and said agent instruction means instructs the agents to operate in order based on the grouping information of said agent management means.

Don shows said agent management means has existence detection means for

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detecting whether or not each agent exists in the persistent storage, grouping information management means for grouping the agents and managing grouping information based on results of the existence detection means and the compound process priority of each agent, and update instruction means for instructing the grouping information management means to update the grouping information; and said agent instruction means instructs the agents to operate in order based on the grouping information of said agent management means (Abstract, col. 2 lines 12 - 50).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Saran in view of Hiltgen, Hyde, Ransom and Cochcroft with that of Don in order to enhance application performance (Don, Abstract).

43. Claims 12 – 15 and 27 - 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saran in view of Hiltgen, Hyde, Ransom and Cochcroft as applied to claims 6 and 21 above, and further in view of Calvignac (US 7,089,555 B2).

44. Regarding claims 12 and 27, Saran in view of Hiltgen, Hyde, Ransom and Cochcroft show acceptance order information management means for managing acceptance order information on the agent activating events accepted by said acceptance means (Saran [102-105]); and a plurality of threads mutually operable in parallel, each thread detecting the process requesters to which the message generated due to agent activating events (Hiltgen, [6,11-12,40-47]) based on said process requester search information and inserting said message into the message queues related to the process requesters (Saran [99-109, 102-103, 116-117]);

proceeding information management means for managing proceeding

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information of the thread associated with each agent activating event accepted by said acceptance means (Hiltgen [40-43, 46-47, 50, 55-57]);

Saran in view of Hiltgen, Hyde, Ransom and Cochcroft do not show allocation means for allocating to each thread the agent activating event to be processed by the thread;

determination means for, associated with the agent activating event which indicates proceeding information is information on thread termination (hereafter, referred to as a "determined agent activating event"), determining whether or not, of the agent activating events accepted by said acceptance means prior to the determined agent activating event, there is any agent activating event which indicates a thread is unfinished; and

agent control means for controlling the agent associated with the message generated upon the determined agent activating event determined as that there is an agent activating event which indicates a thread is unfinished.

Calvignac shows allocation means for allocating to each thread the agent activating event to be processed by the thread; determination means for, associated with the agent activating event which indicates proceeding information is information on thread termination (hereafter, referred to as a "determined agent activating event"), determining whether or not, of the agent activating events accepted by said acceptance means prior to the determined agent activating event, there is any agent activating event which indicates a thread is unfinished (col. 3 lines 10 – 43, col. 4 lines 38 – 67, col. 6 lines 26 – 67).; and

agent control means for controlling the agent associated with the message generated upon the determined agent activating event determined as that there is an agent activating event which indicates a thread is unfinished (Abstract, col. 3 lines 10 – 43, col. 4 lines 38 – 67, col. 6 lines 26 – 67).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Saran in view of Hiltgen, Hyde, Ransom and Cochcroft with that of Calvignac in order to ensure proper and orderly executing of agents and their corresponding threads.

45. Regarding claims 13 and 28, Saran in view of Hiltgen, Hyde, Ransom, Cochcroft and Calvignac further show wherein said agent control means for allowing the agent associated with the message generated upon the determined agent activating event determined as that there is no agent activating event which indicates a thread is unfinished (Calvignac, Abstract, col. 3 lines 10 – 43, col. 4 lines 38 – 67, col. 6 lines 26 – 67).

46. Regarding claims 14 and 29, Saran in view of Hiltgen, Hyde, Ransom, Cochcroft and Calvignac further show wherein said determination means for, in the case where the agent activating event immediately following the agent activating event determined as that there is no agent activating event which indicates a thread is unfinished, in acceptance order is already determined as that there is an agent activating event which indicates a thread is unfinished, changing a determination result from that there is an agent activating event which indicates a thread is_unfinished to that there is no agent

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activating event which indicates a thread is unfinished (Calvignac, Abstract, col. 3 lines 10 – 43, col. 4 lines 38 – 67, col. 6 lines 26 – 67).

47. Regarding claims 15 and 30, Saran in view of Hiltgen, Hyde, Ransom, Cochcroft and Calvignac further show wherein said agent for, in the case of processing the message queue in which the messages generated due to a plurality of agent activating events of which determination result by said determination means is that there is no agent activating event which indicates a thread is unfinished, continuously processing the plurality of continuous messages (Calvignac, Abstract, col. 3 lines 10 – 43, col. 4 lines 38 – 67, col. 6 lines 26 – 67).

48. Claims 12 – 15 and 27 - 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saran in view of Hiltgen, Hyde, Ransom and Cochcroft as applied to claims 6 and 21 above, and further in view of Nishimura (US 2003/0037091 A1).

49. Regarding claims 12 and 27, Saran in view of Hiltgen, Hyde, Ransom and Cochcroft show acceptance order information management means for managing acceptance order information on the agent activating events accepted by said acceptance means (Saran [102-105]); and a plurality of threads mutually operable in parallel, each thread detecting the process requesters to which the message generated due to agent activating events (Hiltgen, [6,11-12,40-47]) based on said process requester search information and inserting said message into the message queues related to the process requesters (Saran [99-109, 102-103, 116-117]);

proceeding information management means for managing proceeding information of the thread associated with each agent activating event accepted by said

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acceptance means (Hiltgen [40-43, 46-47, 50, 55-57]);

Saran in view of Hiltgen, Hyde, Ransom and Cochcroft do not show allocation means for allocating to each thread the agent activating event to be processed by the thread;

determination means for, associated with the agent activating event which indicates proceeding information is information on thread termination (hereafter, referred to as a "determined agent activating event"), determining whether or not, of the agent activating events accepted by said acceptance means prior to the determined agent activating event, there is any agent activating event which indicates a thread is unfinished; and

agent control means for controlling the agent associated with the message generated upon the determined agent activating event determined as that there is an agent activating event which indicates a thread is unfinished.

Nishimura shows allocation means for allocating to each thread the agent activating event to be processed by the thread; determination means for, associated with the agent activating event which indicates proceeding information is information on thread termination (hereafter, referred to as a "determined agent activating event"), determining whether or not, of the agent activating events accepted by said acceptance means prior to the determined agent activating event, there is any agent activating event which indicates a thread is unfinished ([9-14, 22, 37-39]).

agent control means for controlling the agent associated with the message generated upon the determined agent activating event determined as that there is an

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agent activating event which indicates a thread is unfinished ([9-14, 22, 37-39]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Saran in view of Hiltgen, Hyde, Ransom and Cochcroft with that of Nishimura in order to ensure proper and orderly executing of agents and their corresponding threads.

50. Regarding claims 13 and 28, Saran in view of Hiltgen, Hyde, Ransom, Cochcroft and Nishimura further show wherein said agent control means for allowing the agent associated with the message generated upon the determined agent activating event determined as that there is no agent activating event which indicates a thread is unfinished (Nishimura [9-14, 22, 37-39]).

51. Regarding claims 14 and 29, Saran in view of Hiltgen, Hyde, Ransom, Cochcroft and Nishimura further show wherein said determination means for, in the case where the agent activating event immediately following the agent activating event determined as that there is no agent activating event which indicates a thread is unfinished, in acceptance order is already determined as that there is an agent activating event which indicates a thread is unfinished, changing a determination result from that there is an agent activating event which indicates a thread is_unfinished to that there is no agent activating event which indicates a thread is unfinished (Nishimura [9-14, 22, 37-39]).

52. Regarding claims 15 and 30, Saran in view of Hiltgen, Hyde, Ransom, Cochcroft and Nishimura further show wherein said agent for, in the case of processing the message queue in which the messages generated due to a plurality of agent activating events of which determination result by said determination means is that there is no

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agent activating event which indicates a thread is unfinished, continuously processing the plurality of continuous messages (Nishimura [9-14, 22, 37-39]).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Frink whose telephone number is (571) 272-9686. The examiner can normally be reached on M-F 7:30AM - 5:00PM EST; off alternate Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571)272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Andrew Caldwell/
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